

WHAT IS CLAIMED IS:

1. A microstrip line comprising:

a ground conductor layer;

a dielectric layer formed on the ground conductor

5 layer; and

a linear conductor layer formed on the dielectric layer
to have a linear configuration, the linear conductor layer
having a wider portion in an upper part of a cross section
thereof taken in a direction perpendicular to a direction in
10 which the linear conductor layer extends and a narrower
portion in a lower part of the cross section, the narrower
portion being smaller in width than the wider portion.

2. The microstrip line of claim 1, further comprising a
substrate for holding the ground conductor layer, the
15 substrate being located under the ground conductor layer and
composed of a dielectric material, wherein the dielectric
layer has a dielectric constant higher than a dielectric
constant of the substrate.

3. The microstrip line of claim 1, wherein the
20 dielectric layer contains a titanium oxide.

4. The microstrip line of claim 3, wherein the titanium
oxide is a strontium titanate.

5. A method for fabricating a microstrip line, the
method comprising the steps of:

25 forming a ground conductor layer on a substrate

composed of a dielectric material;

forming a dielectric layer on the ground conductor layer;

forming a mask pattern having a linear opening on the

5 dielectric layer;

depositing a layer forming a linear conductor layer on the mask pattern including the opening; and

patterning the linear-conductor-layer forming layer such that the linear-conductor-layer forming layer on the
10 mask pattern has a width larger than a width of the opening.

6. An inductor element comprising a microstrip line composed of a ground conductor layer, a dielectric layer formed on the ground conductor layer, and a linear conductor layer formed on the dielectric layer to have a linear
15 configuration,

the linear conductor layer being formed in a spiral configuration in a plane parallel to the dielectric layer and having a wider portion in an upper part of a cross section thereof taken in a direction perpendicular to a direction in
20 which the linear conductor layer extends and a narrower portion in a lower part of the cross section, the narrower portion being smaller in width than the wider portion.

7. An RF semiconductor device comprising:

an active element formed in a substrate; and

25 a microstrip line formed on the substrate to propagate

input/output signals to and from the active element,

the microstrip line being composed of a ground conductor layer formed on the substrate, a dielectric layer formed on the ground conductor layer, and a linear conductor layer formed on the dielectric layer to have a linear configuration,

the linear conductor layer having a wider portion in an upper part of a cross section thereof taken in a direction perpendicular to a direction in which the linear conductor layer extends and a narrower portion in a lower part of the cross section, the narrower portion being smaller in width than the wider portion.